Phenyl introduced ammoniumborohydride: synthisis and reversible dehydrogenation properties

Shaofeng Li,[a] Ziwei Tang,[a] Qiaolong Gong,[a] Xuebin Yu,*[a] P. Beaumont,[b]

and Craig M. Jensen*[b]

[a] *Department of Materials Science, Fudan University, Shanghai 200433, China*

[b] *Department of Chemistry, University of Hawaii at Manoa, 2545 The McCathy Mall, Honolulu, Hawaii 96822-2275, USA*

E-mail: yuxuebin@fudan.edu.cn; jensen@hawaii.edu

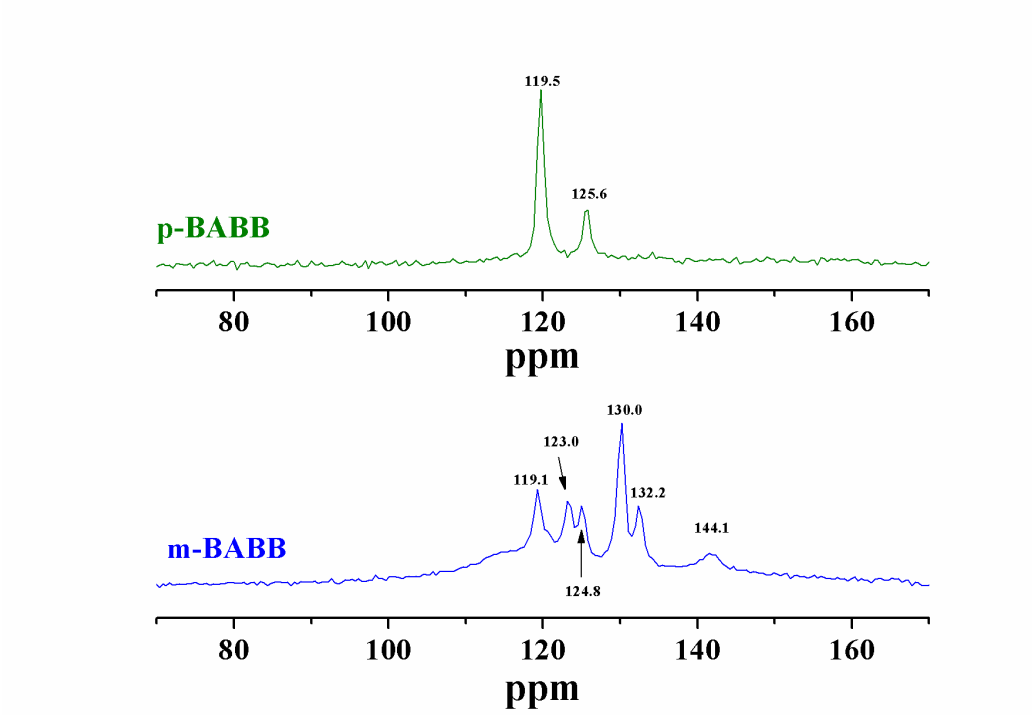

Fig. S1 Solid-state ^{13}C MAS NMR spectrum of (up) p-BABB and (down) m-BABB.

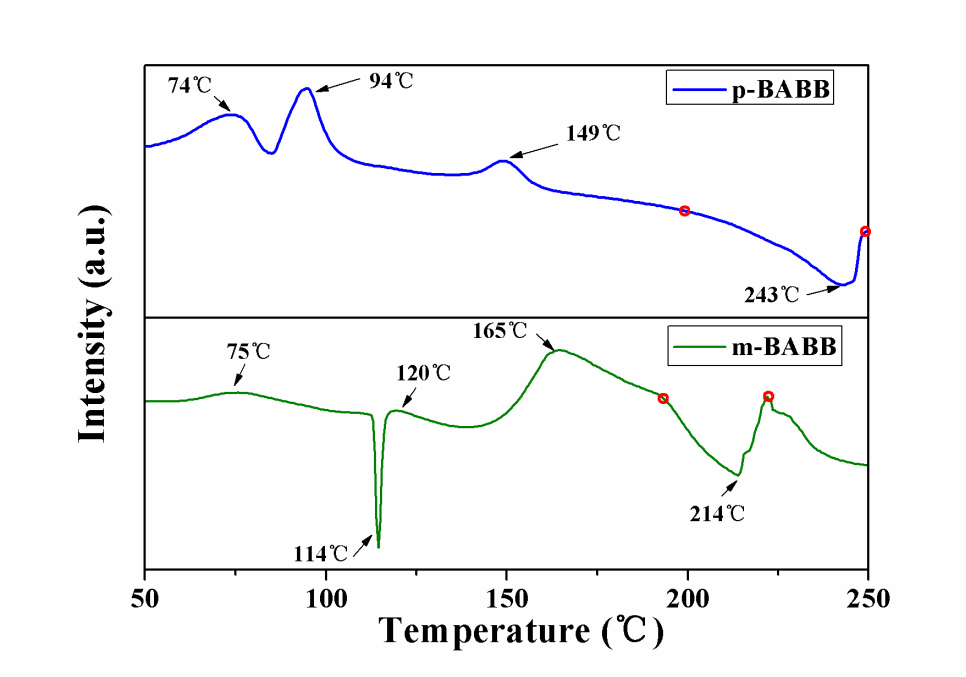

Fig. S2 DSC results of p-BABB and m-BABB from room temperature to 250 °C with a heating rate of 5 °C min^{-1}.

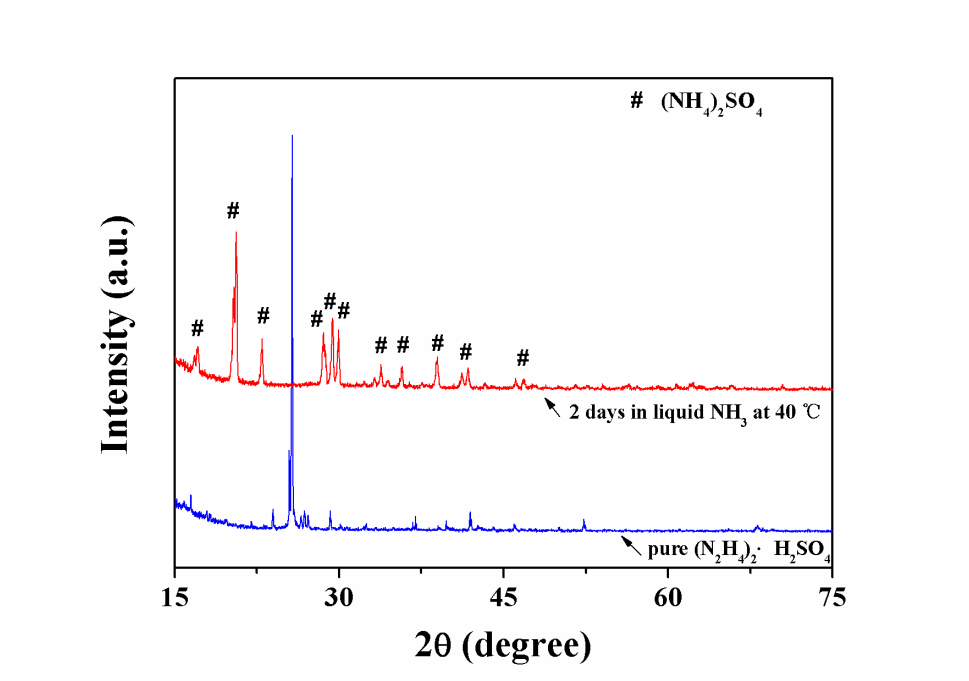

Fig. S3 XRD patterns for the pure $(N_2H_4)_2 \cdot H_2SO_4$ and the products of $(N_2H_4)_2 \cdot H_2SO_4$ after 2 days reaction in liquid NH_3 at 40 °C.

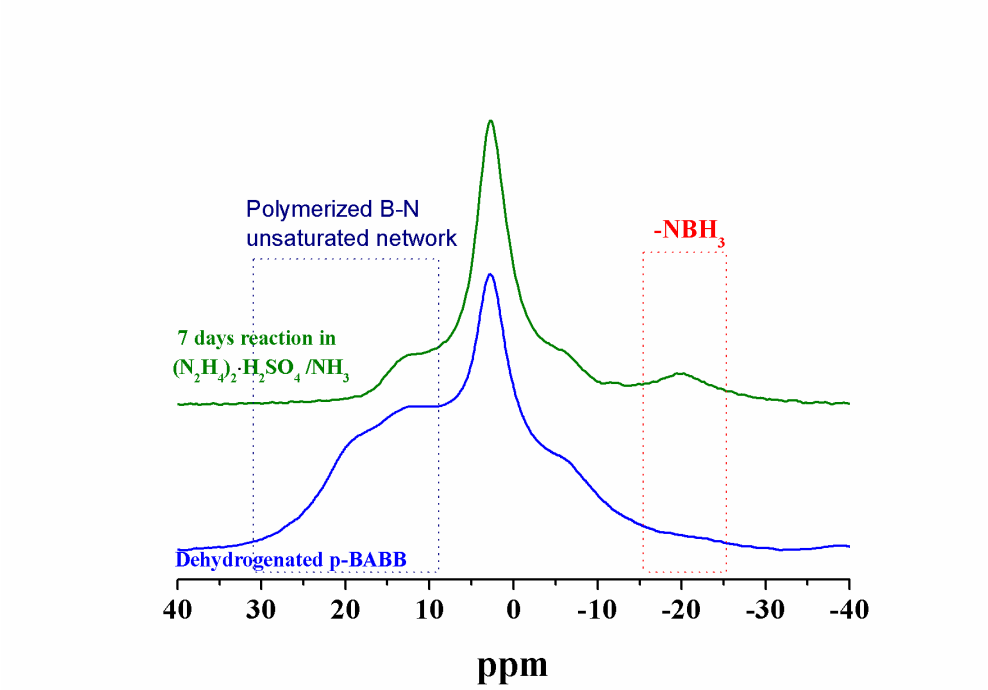

Fig. S4 Solid-state ^{11}B NMR spectra of the dehydrogenated p-BABB after treating with $(N_2H_4)_2 \cdot H_2SO_4$ in liquid NH_3 for 7 days at 45 °C.